

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): An elevator rope slippage detecting device for detecting presence/absence of slippage between a rope that moves together with movement of a car, and a pulley around which the rope is wound and which is rotated through movement of the rope, comprising:

a pulley sensor ~~for generating~~ configured to generate a signal in accordance with rotation of the pulley;

a rope speed sensor ~~for detecting~~ configured to generate a movement speed of the rope based on an observation of the rope; and

a processing device including[[:]] a first speed detecting portion ~~for obtaining~~ configured to obtain a speed of the car based on the signal from the pulley sensor[[:]], a second speed detecting portion ~~for obtaining~~ configured to obtain a speed of the car based on information on the movement speed from the rope sensor[[:]], and a determination portion ~~for determining~~ configured to determine the presence/absence of slippage between the rope and the pulley by comparing the speed of the car obtained by the first speed detecting portion and the speed of the car obtained by the second speed detecting portion with each other.

Claim 2 (Currently Amended): An elevator rope slippage detecting device according to Claim 1, wherein the first speed detecting portion includes[[:]] a car position calculating circuit ~~for obtaining~~ configured to obtain a position of the car based on information on a rotational position of the pulley[[:]], and a car speed calculating circuit ~~for pulley for obtaining~~ configured to obtain a speed of the car based on information on the position of the car from the car position calculating circuit.

Claim 3 (Previously Presented): An elevator rope slippage detecting device according to Claim 1, wherein the pulley sensor includes an encoder.

Claim 4 (Currently Amended): An elevator rope slippage detecting device according to Claim [[3]]1, wherein the rope sensor includes a Doppler sensor ~~for obtaining~~ configured to obtain the movement speed of the rope by measuring a difference in frequency between an oscillating wave irradiated to a surface of the rope and a reflected wave of the oscillating wave reflected by the surface of the rope.

Claim 5 (Currently Amended): An elevator rope slippage detecting device according to Claim 4, further comprising an energy wave intercepting member provided in proximity to the rope sensor, ~~for intercepting~~ and configured to intercept a reflected wave that is different from the reflected wave of the oscillating wave reflected by the surface of the rope.

Claim 6 (Currently Amended): An elevator rope slippage detecting device according to Claim 3, wherein:

irregularities are formed in the surface of the rope at a constant interval in a longitudinal direction of the rope so that a gap between the rope sensor and the surface of the rope varies according to movement of the rope; and

the rope sensor includes a gap sensor ~~for measuring~~ configured to measure the movement speed of the rope by reading a variation period of the gap.

Claim 7 (Currently Amended): An elevator rope slippage detecting device according to Claim 6, wherein the rope sensor includes an optical displacement sensor ~~for obtaining~~ configured to obtain a size of the gap by triangulation.

Claim 8 (Currently Amended): An elevator rope slippage detecting device according to Claim 6, wherein the rope sensor includes a magnetic field generating portion ~~for generating~~ configured to generate a magnetic field passing through the rope, and a detection portion ~~for obtaining~~ configured to obtain the variation period of the gap by measuring a variation period of an intensity of the magnetic field.

Claim 9 (Previously Presented): An elevator rope slippage detecting device according to Claim 1, wherein the rope sensor measures a movement speed of a portion of the rope wound around the pulley.

Claim 10 (Previously Presented): An elevator rope slippage detecting device according to Claim 1, wherein:

a pair of rollers are arranged vertically at a spacing from each other, the pair of rollers being pressed against the rope to bend the rope; and

the rope sensor measures a movement speed of a portion of the rope tensioned between the pair of rollers.

Claim 11 (Currently Amended): An elevator rope slippage detecting device according to Claim 1, wherein:

a pair of rope pinching portions each having a stationary roller and a movable roller urged toward the stationary roller side are arranged vertically at a spacing from each other, ~~for pinching~~ and configured to pinch the rope between the stationary roller and the movable roller; and

the rope sensor measures a movement speed of a portion of the rope tensioned between the pair of rope pinching portions.

Claim 12 (Currently Amended): An elevator apparatus comprising:

- a car that is raised and lowered in a hoistway;
- a rope that moves in accordance with movement of the car;
- a pulley around which the rope is wound, the pulley being rotated through the movement of the rope;
- a pulley sensor ~~for detecting~~ configured to detect a rotational position of the pulley;
- a rope sensor ~~for detecting~~ configured to detect a movement speed of the rope based on an observation of the rope;
- a processing device ~~for detecting~~ configured to detect presence/absence of slippage between the rope and the pulley by obtaining a speed of the car based on information on the rotational position and a speed of the car based on information on the movement speed and comparing the obtained speeds of the car with each other; and
- a control device ~~for controlling~~ configured to control operation of an elevator based on information from the processing device.

Claim 13 (New): The device of Claim 1, wherein the observation of the rope includes receiving an energy wave reflected from the rope.

Claim 14 (New): The device of Claim 1, wherein the observation of the rope includes measuring a frequency of an oscillating wave reflected from the rope.

Claim 15 (New): The apparatus of Claim 12, wherein the observation of the rope includes receiving an energy wave reflected from the rope.

Claim 16 (New): The apparatus of Claim 12, wherein the observation of the rope includes measuring a frequency of an oscillating wave reflected from the rope.